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ABSTRACT

Americans tend to value bigger as better. Conventional wisdom over the years has dictated that "too small" schools and school districts could not provide sufficient educational opportunities. Since 1930, the number of school districts has shrunk from 128,000 to less than 16,000. As districts consolidate, parents feel distant from schools and powerless to affect policy. At the same time, Gene Glass's definitive work stresses the learning benefits of smaller classes. This paper reviews current thinking on district, school, and class size as they affect learning in the classroom. A table summarizes correlations between size and various other factors, including state public school enrollments, minority, student concentrations, SAT and ACT scores, state poverty levels, per pupil expenditure averages, teacher salaries, and Catholic school enrollments. Findings show that smaller is likely to be better. However, political and economic influences will probably prevent change based on size considerations. Robert Slater's research expands the appropriate class size question by relating class size to structural differentiation and school culture. The nature of instruction must also be considered. To achieve appropriate instruction, the group's size and composition must fit the instructional situation. A diagnostic-prescriptive model (like Bloom's mastery learning) with variable size based on instructional need seems logical. Also, home schooled children's superior test scores corroborate the smaller-is-better findings. People seem to learn, change, and grow in situations where they have some control, some personal influence, and some efficacy. (15 references) (MLH)

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# Organizational Size and Learning

Presented at the Annual Meeting of
the American Educational Research Association
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by
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In this presentation, we hope to provide you with an overview of the current thinking on the subject of size --- school district size, school size, and class size, as they affect learning in the classroom. In addition, we will explore the subject of the relationship of "home schooling" to instructional issues related to size. Most of the contents of our discussion are derived from the February, 1989, issue of Education and Urban Society, which we co-edited.

As you know, Americans have a tendency to value size, qua size. We tend to think that anything which is bigger is better. Over the years, the conventional wisdom has been that schools and districts which were too small, by someone's definition, would not be able to provide suitable educational opportunities for their students. Conant probably reinforced this notion in his classic The American High School Today, by insisting that any high school which isn't comprehensive cannot do an adequate job of educating students.

On the issue of class size, the Gene Glass (1982) meta-analysis became the definitive work for years. The idea that smaller classes lead to better learning, at least if they contain fifteen or fewer students, gained currency from Glass' work. Of course, few schools can afford to operate with class sizes under 25 students, so most ignore Glass' conclusions. We will comment on another way to look at class size later in this presentation.

Finally, the issue of district size is considered. We know that the United States has reduced the number of school districts from approximately 128,000 in 1930, to 36,000 in 1960, to less than 16,000 today (McGutre, 1989). As the number of school districts has decreased, the public school enrollment has increased, so that the median number of pupils per district has increased to 2917 in 1985. As school districts consolidate, parents feel distant from the schools, and feel powerless to affect policy. In rural areas, communities which always had a school may no longer have a building which is theirs. In a recent (3/5/89) Sunday Morning (Television) program, Charles Kuralt visited some communities which had lost their high schools. As a result, the identity of the community had changed. In Illinois, a bill was passed by the legislature mandating consolidation studies for the more than 1000 districts in the

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state. Now, five years later, there are still approximately the same number of districts, and all efforts to enforce consolidation have ceased. Even if larger districts are more efficient, people are not easily convinced to give up their closeness to the schools. Anyone who has lived in a community where a school closing became an issue, is well aware of the strong emotions engendered by the idea of "losing our school". Even class size can be a political issue, since most parents feel that smaller is better.

As we look at the issue of size, of school district, of school, and of class, we must answer the question, "for what purpose?" And size cannot be considered in a vacuum. While size variables seem to have some effect on educational outcomes, we must retain perspective and realize that other factors may have a much greater impact on student achievement than size. Student SES, teacher variables, and instructional variables probably have a greater impact on student achievement than size. Thus, keeping in mind that size can only be considered by itself as an intellectual exercise, we shall look at some selected research findings.

When we look at size of district as a variable, we find that district size has been found to be negatively related to achievement in some studies. For example, school system size (Webb, 1989) is negatively correlated to pupil achievement in low SES districts, while there is not correlation or a slight positive correlation between district size and achievement in medium or high SES districts. Other studies seem to show little correlation between size and achievement. We might ask why low SES children do more poorly in larger districts. Is the poor performance the result of the lack of close relationship between the home and the district/school? Since a high percentage of low SES children are in the large urban districts, the district size seems to directly affect student performance. Of course, urban districts are likely to have the largest schools and larger class sizes, too.

How do we reduce the size of schools districts? (Usually, when people speak of district size, they are referring to number of students, but there are some obvious problems associated with large geographic size, too). Big cities have wrestled with the problems of making schools more responsive to the local community, in an effort to improve student performance through parent involvement. New York and Detroit have not been very successful at changing their schools. Herb Walberg (1989) and Bod Hess have greatly influenced the State of Illinois in its passage of Chicago School Reform legislation (November, 1988). The new legislation creates 23 district school boards, and a school board for each school. The interesting question is whether drastically reduced district size will lead to better performance by students.

If the curriculum of the school has a direct effect on student learning, then we have to ask if there is optimum size of district or school for development and implementation of curriculum. In the recent past, curriculum was centralized. Each school was expected to follow a curriculum developed by a Central Committee. The literature of change (e.g. Michael Fullan), has encouraged districts to decentralize the curriculum-making functions--possibly the Walberg/Chicago experiment will lead to some data on this topic. Gerald Unks (1989), too, concludes that smaller units are better than larger units for the purpose of curriculum development. Most curriculum people seem to feel that the wheel must be reinvented in each school if change is to take place. We would like to point out that there is a distinction between curriculum development and implementation. The development of an overall structure and suitable materials could take place at a district level, where there are resources available. On the other hand, implementation of any curriculum change occurs on the classroom level. Teachers either personalize a curriculum and adapt it to their own situation, or they reject its basic premise and ignore it (cf. the studies of Science curricula in the 1960s). Thus, small districts may lack the resources to develop curricula, although they are quite capable of implementing a curriculum developed by someone else. One cannot conclude that "all other things being equal, smaller districts are better", since other things are seldom equal. Very small districts seldom have the resources--equipment, consultants, ancillary staff, curriculum variety, supplies, teaching staff--to produce and deliver curriculum to students, that the larger districts have. There seem to be some factors inherent in largeness, which tend to cancel the obvious advantages of size.

However, one of the major arguments advanced by those who advocate large size, is that of cost efficiency. However, the studies comparing size, cost and student achievement do not give a clear indication of the superiority of large or small. As McGuire (1989) says:

> While the emphases may be just a bit different in large and small schools and districts, the challenges are of a similar nature. Hence, there is a useful point of departure for a new and different dialogue on size. Both large and small schools are being challenged to rethink course delivery, the training and the use of instructional staff, scheduling, curriculum and instruction, school organization and even mission. Understanding how to influence size, alter it when necessary and to collaborate to create the situations that are advantageous to large and small schools is perhaps the biggest challenge for educators and policy makers. All too often we are locked in tradition.

We have examined a number of size issues, but the real question of whether size makes a difference in anything has not yet been addressed. The data in Table 1, based on various government sources, summarize the correlations between various factors. The major findings are summarized as follows:

1. The sheer size of public school enrollment in the 50 states and the District of Columbia is not strongly related to matters of educational importance. Large enrollment states have slightly higher levels of income but spend slightly lower proportions of that income for public education. Large enrollment states have slightly higher proportions of minority students, slightly lower graduation rates, slightly higher teachers' salaries and slightly less favorable pupil/teacher ratios.

2. Minority public school students in the United States are concentrated in states which have large school districts and school districts which have large schools.

3. Students in states with smaller districts and smaller schools have higher SAT and ACT scores. Sizes of schools and districts, however, do not appear to be significant after controlling for the effects of state poverty levels on college entrance examination scores.

4. States with smaller average size schools and lower proportions of students in large districts have higher graduation rates than states with larger schools and higher percentages of students in large districts. This holds true even after controlling for the negative effect of minority enrollment proportions on graduation rates.

5. Per pupil expenditure averages for the 51 systems have no significant statistical relationship with state enrollment sizes, average school districts, proportions of students in large districts or average school sizes.

6. States with larger districts and larger schools have higher teachers' salaries and less favorable pupil/teacher ratios than states with smaller districts and smaller schools.

7. The magnitude of Catholic school enrollments is not significantly related to any of the four size variables of this study. The magnitude of non-Catholic private school enrollments, although unrelated to system size, has strong positive relationships with district size and school size--the larger the districts and schools, the higher the proportion of non-Catholic private enrollments among the states.

TABLE 1

CORRELATIONS WITH SIZE VARIABLES

| VARIABLES | SYSTEM SIZE | DISTRICT SIZE | %20K ** | SCHOOL SIZE |
|---|---|---|---|---|
| 1. SYSTEM SIZE | ----- | | | |
| 2. AVERAGE DIST SIZE | -0.126 | ----- | | |
| 3. %20K | 0.142 | 0.676 | ----- | |
| 4. AVERAGE SCHOOL SIZE | 0.460 | 0.372 | 0.575 | ----- |
| 5. MINORITIES | 0.229 | 0.644 | 0.681 | 0.571 |
| 6. POVERTY | 0.073 | 0.092 | 0.157 | 0.249 |
| 7. SAT SCORES | -0.074 | -0.222 | -0.358 | -0.367 |
| 8. ACT SCORES | -0.015 | -0.432 | -0.132 | -0.377 |
| 9. GRADUATION RATES | -0.280 | -0.200 | -0.529 | -0.598 |
| 10. PVT CATHOLIC ENR | 0.182 | 0.116 | -0.045 | 0.097 |
| 11. PVT NON-CATH ENR | 0.087 | 0.613 | 0.455 | 0.591 |
| 12. PER PUPIL EXP | 0.056 | 0.065 | 0.010 | -0.067 |
| 13. AV TEACHERS SALARY | 0.222 | 0.190 | 0.303 | 0.166 |
| 14. PUPIL/TCHR RATIO | 0.276 | 0.132 | 0.436 | 0.432 |
| 15. PER CAPITA INCOME | 0.227 | 0.193 | 0.268 | 0.154 |
| 16. % OF INC FOR PUB ED | -0.208 | -0.101 | 0.166 | -0.376 |

** This symbol refers to percent of students in districts of 20,000 students or more.

The data just discussed, which were reported by Jewell (1989), seem to lead to one conclusion. When in doubt, smaller is likely to be better. However, political and economic assessments of the situation lead us to believe that change based on size considerations is unlikely to occur.

What about class size? Robert Slater (1989) expands the question of appropriate class size by stressing the importance of relating class size to structural differentiation and the culture in which schools exist. In some ways, the latest class size research has begun to incorporate these other factors--going well beyond an attempt to determine the correlation between size of class and achievement scores. The consideration of cultural factors is still a relatively new addition to research designs in the area of class size, while theoretical models relating size, structure and cultural factors have not been fully developed. As our thinking about class size broadens to include cultural and other factors, we find it much more difficult to make general pronouncements about class size--suitable for consideration at Board of Education meetings.

Finally, as we look at the class issue, we have to look at the nature of instruction, as Logan-Woods (1989) advocates. In order to achieve appropriate instruction, the size and composition of the group must fit the instructional situation. Sometimes a group of a hundred might be appropriate, while at other times a group of ten might be large. Thus, a diagnostic-prescriptive model, (Bloom's Mastery Learning?) with variable size based on instructional need seems logical. After all, schools are suppose to provide instruction for all students, and, if variable class size helps to reach this ideal, maybe we are arguing about the wrong issue.

When we examine home/family education, for the effects of a small class size much of the research is limited to demographic surveys on case studies (Van Galen, 1988). We will address a small segment of this controversial issue.

Research indicates that a majority of the parents who withdrew their children from public or private educational settings, were teachers. The primary cause of the withdrawal was a decision based upon a perceived inability of the institution to provide a suitable educational plan or policy for their child.

The number of children being educated in home/family settings is unavailable because there is no mechanism for identifying them. It is estimated, however, that there are over one million students, or 1% of the total student population in the United States (Zakariya, 1988). One mail order curriculum firm indicates that it has over 50,000 parents who subscribe to their services. There are at least 100 such services in the United States (Kohn, 1988).

Test results, usually supplied by state departments of education and local school districts, indicate that a vast majority of children educated at home (90%) are at or above their grade level. Evidence about the children's social development suggests superior social development when dealing with adults and slightly below average development when interacting with their peers (Henderson, 1987).

Are students receiving an adequate education when the instruction is given at home with, in most cases, a parent as the teacher? The evidence appears to indicate yes, but, the data base is extremely small so let's not make Type I research errors.

Needless to say, school districts have filed suit against parents (Van Galen, 1988); Zakariya, 1988; Kohn, 1988; Lines, 1987) in order to enforce mandatory attendance laws, teacher certification policies, and the concept of "substantially equivalent" schooling. Decisions in many of these cases are being appealed to state appellate courts and to federal district courts. These rulings are expected in the very new future. New precedents could be set by these decisions about home/family school.

After all of the data has been considered, it seems that smaller is better. Why? The best possible answer seems to be that people seem to learn, to change, and to grow in situations in which they feel that they have some control, some personal influence, some efficacy. Those situations in which parents, teachers and students are bonded together in the pursuit of learning are likely to be the most productive. Small size, by itself, can only aid in this complex process. There seems to be no right answer. Each district, school and class will have to balance the multiple forces which influence the curriculum, the classroom instruction, and the learning outcomes. The issue of size is important: but only as the size of anything affects relationships. We all agree that we must continue to strive to provide the best possible learning situation for our children. How to achieve this "best of all possible worlds" is a subject for dialogue in each state, district, school and classroom. There is no single prescription for success -- no easy answer.

## REFERENCES

Glass, G., Cohen, L., Smith, M. and Filby, N. (1982) School Class Size. Beverly Hills, CA: Sage.

Henderson, N. (1987) "Teaching Your Kids at Home". Changing Times, 41, 3: 83-87.

Jewell, R.W. (1989), "School and School District Size Relationships", Education and Urban Society, February (In Press).

Kohn, A. (1988) "Home Schooling". The Atlantic, 261, 4: 20-25.

Konnert, W., Wendel, J. (1988) "Here's what your board should know when parents ask about home schooling". The American School Board Journal, 175, 5:43-44.

Lines, P. (1987) "An Overview of Home Instruction". Phi Delta Kappan, 68: 510-517.

Logan-Woods, J. (1989), "Class Size: The Bridge Between Diagnostic Information and Actions for School Improvement", Education and Urban Society, February (In Press).

McGuire, K. (1989), "School Size: The Continuing Controversy", Education and Urban Society, February (In Press).

Slater, R. (1989), "Education Scale", Education and Urban Society, February (In Press).

Unks, G. (1989) "Differences in Curriculum Within a School Setting", Education and Urban Society, February (In Press).

Van Galen, J. (1988) "Becoming Home Schoolers". Urban Education, 23, 1:89-106.

Walberg, H. (1989) "District Size and Student Learning", Education and Urban Society, February (In Press).

Webb, F.R. (1989) "A District of a Certain Size", Education and Urban Society, February (In Press).

Wilson, S. (1988) "Can we clear the air about home schooling? Instructor, 97, 1:11.

Zakariya, S. (1988) "Home schooling litigation tests state compulsory education laws". The American School Board Journal, 175, 5:45-46.